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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/532,791	03/22/2000	Takenori Goto	000350	8585

38834 7590 09/14/2004

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
1250 CONNECTICUT AVENUE, NW  
SUITE 700  
WASHINGTON, DC 20036

EXAMINER

NGUYEN, TUAN N

ART UNIT PAPER NUMBER

2828

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/532,791

**Applicant(s)**

GOTO ET AL.

**Examiner**

Tuan N Nguyen

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to applicant's amendment filed 06/28/2004, claims 1, 3, and 11 have been amended. Claims 1-21 are pending.
2. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of new ground of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
4. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Mogi Naoto (JP 60003181) in view of Goto et al. (US 6522676).

With respect to claims 1, 9-11, 15, 20, 21 Nato 'JP 181 shows in figures 2b-d, a first semiconductor layer including an active layer; a second layer along a direction; and a current blocking layer formed over first semiconductor layer on both sides of said second semiconductor layer, a second semiconductor layer including a cladding layer which comprises a lower layer having a first width at its lower end and upper layer having a second width larger than said first width at its lower end, both of said lower layer and said upper layer having a larger band-gap than that of said active layer. (Fig 2b-d: 11-21) (Page 2: Col 3-4) (Page 3 : Col.3: 3-4) (Page 4: 1-4). Goto et al. '676 shows in figures 1, 2, 6-7, 9-10 a first semiconductor layer made of Gallium Nitride including an active layer; a second layer made of Gallium Nitride along a direction; and a current blocking layer formed on first semiconductor layer on both sides of said second semiconductor layer, a second semiconductor layer including a Gallium Nitride cladding layer which comprises a lower layer having a first width at its lower end and upper layer having a second width larger than said first width at its lower end, both of said lower layer and said upper layer having a larger band-gap than that of said active layer (Fig 6). It is within the general skill of a worker in the art at the time the invention was made to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice, in this case is the nitride material taught by Goto et al. '676. *In re Leshin*, 125 USPQ 416. Since claims 11-13, 15, 20, 21 recites the same or identical elements/limitations it is inherent to use patents JP 181 to recite the method of fabricating a semiconductor laser device, product by process.

With respect to claims 2-6, Nato 'JP 181 and Goto et al. '676 discloses the contact layer, and the cladding has the function of confining light in said active layer, cladding layer having a first carrier concentration and a third semiconductor layer which is a contact layer having a

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second carrier concentration greater or equal to first carrier concentration. Naoto JP 181 (Fig 2b-d: 11-21) (Page 2: Col 3-4) (Page 3 : Col.3: 3-4) (Page 4: 1-4) and Goto et al. '676 (Fig 1: 2-9) (Fig 2, 6, 9-10 a-c)

With respect to claim 7-8, 12-14, 16-19 Goto et al. '676 shows in figures 6, 8 c-d, 9a-c, 10a-c show the first width from its lower end to its upper end, and an upper layer having a width increase or decrease upward (Fig 9b, 10 a, 11: 50), and third semiconductor having a smaller band-gap than that of said cladding layer and having a carrier concentration which is not less than that of said cladding layer. It would have been an obvious matter of design choice to having the upper layer having decrease up or increase up, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. It has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### ***Communication Information***

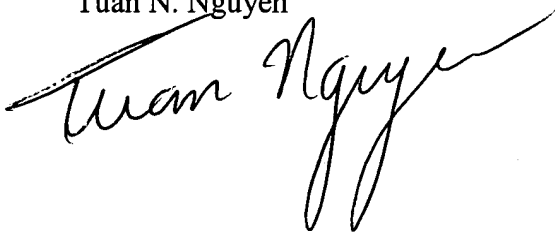
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (703) 308-16741. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Tuan N. Nguyen

A handwritten signature in black ink, appearing to read 'Tuan Nguyen', with a long, sweeping horizontal stroke at the end.A handwritten signature in black ink, appearing to read 'Minsun Oh Harvey', with a long, sweeping horizontal stroke at the end.

MINSUN OH HARVEY  
PRIMARY EXAMINER